

**Appl. No. 10/682,346**  
**Amendment dated February 3, 2006**  
**Reply to Office Action of November 3, 2005**

**REMARKS/ARGUMENTS**

This amendment is submitted under 37 C.F.R. § 1.111 in response to the Office Action of November 3, 2005.

Claims 17 through 24 are pending in the application. Claims 1 through 16 were previously canceled. Claim 17 is amended by this response.

No additional fees are believed to be due. However, if any fee is due during the prosecution of this application, the Director is authorized to charge Deposit Account Number 12-1210.

**1. Amendment to specification**

The previous amendment to the specification submitted on September 16, 2005, was in error. It is clear from the prosecution history that this application is a divisional of U.S. Application Ser. No. 09/397,934. See Request for a Divisional Application of October 10, 2003. The amendment to the specification of September 16, 2005, inadvertently deleted the language, "This application is a divisional of U.S. Application Ser. No. 09/397,934, filed on September 17, 1999," which was added to the application in the Request for a Divisional Application of October 10, 2003. Accordingly, it is requested that the specification be amended to reflect the language shown above. The Applicants claim priority to these prior applications.

**2. Rejection under 35 U.S.C. § 112**

Claim 24 is rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description. Specifically, the Examiner has stated that the temperature range at which the process liquid is maintained, "from about 25°C to about 90°C," has not been disclosed in the specification. The Applicants traverse this rejection and request reconsideration as follows.

Support for the stated temperature range in claim 24 can be found in the specification at page 13, line 20, and page 20, line 26. Accordingly, it is requested that the rejection of claim 24 under 35 U.S.C. § 112, first paragraph, be withdrawn.

**3. Rejection under 35 U.S.C. 102(b)**

Claims 17 through 24 are rejected under 35 U.S.C. 102(b) as being anticipated by German Pilsener lager beer ([www.eat-online.net/english/habits/germany\\_habits.htm](http://www.eat-online.net/english/habits/germany_habits.htm)) and ([www.economicexpert.com/a/Pilsener.htm](http://www.economicexpert.com/a/Pilsener.htm)). According to the Examiner in the Office Action of August 12, 2005:

With regard to claim 17, Eat online discloses the content of the German Pilsener lager beer (see pages 3-4) consisting of riboflavin (vitamin B2) at a concentration of 336µg/L, which is equivalent to 0.33ppm. Economic expert discloses that the first batch of modern Pilsener was on 5<sup>th</sup> October 1842 (line 5). Applicant recites in the claim that a hopped malt beverage whereby the riboflavin content is reduced to less than about 0.2ppm has enhanced stability to light. It is inherent that the Pilsener lager beer with 0.33ppm riboflavin, which is about 0.2ppm, therefore has improved stability to light.

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The Examiner rejected the Applicants' argument of September 16, 2005, and suggests that the Applicants submit "criticality data as to why a hopped malt beverage with riboflavin content of 0.33ppm is not equally as stable as a hopped malt beverage with riboflavin content of 0.2ppm."

The Applicants traverse this rejection and request reconsideration as follows.

The Applicants traverse this rejection as being improperly based under 35 U.S.C. § 102 on the combination of two citations. It is not proper for a rejection based upon anticipation to be based upon the combination of two citations. This rejection should be withdrawn as being improper.

The Applicants re-assert their argument of September 16, 2005, notwithstanding their objection to the rejection as being improperly based upon the combination of two citations. A hopped malt beverage with 0.33 ppm riboflavin is not "about 0.2 ppm," as stated by the Examiner. As the Applicants previously noted, 0.33 ppm is a concentration that is 68% greater than 0.2 ppm. This key difference from the cited art is at the very point of novelty of the Applicants' invention.

It is well known in the art that the "Sunstruck" flavor that occurs in beer is due to photochemical changes in the beer that produce volatile sulfur-containing compounds. See Specification at page 2, lines 1-10, and Sakuma et al., *Sunstruck Flavor Formation in Beer*, AMERICAN SOCIETY OF BREWING CHEMISTS, INC. (1991) at 162. Further, it is widely recognized that these photochemical changes are assisted by the presence of riboflavin, which is present in the malt and hops used to make beer.

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This flavor is composed of a mercaptan, hydrogen sulfide, and several other sulfur-containing compounds. Sunstruck flavor could be photochemically formed from iso-humulones and hydrogen sulfide in the presence of ascorbic acid; the characteristic compound made was 3-methyl-2-butene-1-thiol. The formation of hydrogen sulfide from sulfur-containing amino acids was possible only after photochemical sensitization of riboflavins in the beer bottle. For this reason the evolution of sunstruck flavor was thought to be due to the photochemical sensitization of riboflavin present in beer. About 0.3 mg of riboflavin per liter is present in normal beer.

*Id.* (citations omitted). See also Specification at page 2, lines 10-16, and Tamer et al., *Enzyme Microb Technology* 10 (1998) at 754-56.

It is also clear from prior art that any decrease in riboflavin content will result in a corresponding decrease in the presence of 3-methyl-2-butene-1-thiol. See Specification at page 3, lines 11-16, and Sakuma et al. at 164-165:

In solution A without riboflavin, 3-methyl-2-butene-1-thiol was not detected, and the formation of 3-methyl-2-butene-1-thiol increased with the increase in added riboflavin. . . . The riboflavin content in beer appears to be one of the important factors resulting in differences in beer brands in formation of 3-methyl-2-butene-1-thiol. And if riboflavin could be removed from beer, a beer free from sunstruck flavor might be obtained.

The amount of riboflavin is the critical variable in reducing the "Sunstruck" flavor in beer. Thus, the hopped malt beverage with 0.33 ppm riboflavin described in the prior art cited by the Examiner is not the same as the hopped malt beverage with 0.2 ppm riboflavin claimed by the Applicants. The hopped malt beverage cited in the prior art has a concentration of riboflavin that is 68% greater than that claimed by the Applicants and

therefore it is significantly more susceptible to the photochemical reactions that produce the "Sunstruck" or "Skunky" flavor.

Accordingly, it is requested that the rejection of claims 17 through 24 under 35 U.S.C. 102(b) as being anticipated by German Pilsener lager beer ([www.eat-online.net/english/habits/germany\\_habits.htm](http://www.eat-online.net/english/habits/germany_habits.htm)) and ([www.economicexpert.com/a/Pilsener.htm](http://www.economicexpert.com/a/Pilsener.htm)) be withdrawn.

#### **4. Rejection under Obviousness-Type Double Patenting**

Claims 17 through 24 are rejected under the judicially created doctrine of obvious-type double patenting as being unpatentable over claims 1 through 3, 6, 8, 9, 13, and 14 of U.S. Patent Number 6,649,204 ("the '204 patent"). The Applicants traverse this rejection and request reconsideration as follows.

As stated in section 1 above, this application is a divisional of U.S. application Ser. No. 09/397,934, filed September 17, 1999, now U.S. Patent Number 6,649,204. The prosecution history of the '204 patent shows that the Patent Office found the claims of this application patently distinct from the claims of U.S. Application Serial Number 09/397,934. See Election/Restriction Requirement in Office Action of June 19, 2000. The Applicants elected with traverse to prosecute the invention of Group I, which included claims 1 through 16, drawn to a method for making an enhanced light stable malt beverage. See Response to Restriction Requirement of July 5, 2000.

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Section 804.01 of the MPEP states:

The third sentence of 35 U.S.C. 121 prohibits the use of a patent issuing on an application with respect to which a requirement for restriction has been made, or on an application filed as a result of such a requirement, as a reference against any divisional application, if the divisional application is filed before the issuance of the patent.

The '204 patent issued on November 18, 2003, and the current application was filed approximately one month prior on October 10, 2003. Thus, the '204 patent cannot be used as reference against this application.

Accordingly, it is requested that rejection of claims 17 through 24 under the judicially created doctrine of obvious-type double patenting, as being unpatentable over claims 1 through 3, 6, 8, 9, 13, and 14 of the '204 patent, be withdrawn.

Claims 17 through 24 are also rejected under the judicially created doctrine of obvious-type double patenting as being unpatentable over claims 1, 2, 4, 5, 12 through 16, and 21 of U.S. Patent Number 5,582,857 ("the '857 patent") in view of the '204 patent. The Applicants traverse this rejection and request reconsideration as follows.

In view of the previous argument, the '204 patent cannot be used as a reference against this application. The cited claims of the '857 alone do not satisfy the requirements for non-statutory obvious-type double patenting. They are patently distinct from the claims of this application.

Claims 17 through 24 of the present application claim a product produced by the process taught by '204 patent. The Patent Office has already determined that the process

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claims of the '204 patent are patently distinct from the process claims of the '857 patent, and the product claims of the '857 patent claim only a hopped malt beverage having enhanced light stability with a riboflavin content less than 0.2 ppm. Therefore, claims 17 through 24 are patently distinct from the '857 patent.

Accordingly, it is requested that rejection under the judicially created doctrine of obvious-type double patenting, as being unpatentable over claims 1, 2, 4, 5, 12 through 16, and 21 of the '857 patent in view of the '204 patent, be withdrawn.

Finally, claims 17, 18, and 20 through 24 are rejected under the judicially created doctrine of obvious-type double patenting as being unpatentable over claims 1 through 4 and 8 through 11 of U.S. Patent Number 5,811,144 ("the '144 patent"). The Applicants traverse this rejection and request reconsideration as follows.

Claim 17 is amended to reflect a narrower band of effective actinic radiation. Support for this amendment can be found in the Specification at page 11, lines 20-21. Claim 17 is now patently distinct from the cited claims of the '144 patent.

Accordingly, it is requested that the rejection under the judicially created doctrine of obvious-type double patenting, as being unpatentable over claims 1 through 4 and 8 through 11 of the '144 patent, be withdrawn.

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The applicants submit that this application is now in condition for allowance.

Favorable consideration is requested.

Respectfully submitted,

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